

REMARKS

Claims 1 and 4-7 are pending in the present application, and are rejected. Claims 1 and 7 are herein amended. No new matter has been entered.

Claim Rejections - 35 U.S.C. §103

Claims 1, 2, and 4-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brewer (US 5,856,278) in view of Hiles (US 4,049,396).

The Examiner asserts that Brewer discloses in examples 1 and 2 col. 2 where solvated NBR (unvulcanized rubber of the binder) is present in an amount of 15 vol. %.

The Examiner admits that Brewer fails to disclose abrasive particles other than alumina or rubber other than NBR. In view of the asserted recognition of Hiles' that aluminum oxide and silicon carbide are equivalent and interchangeable in friction or abrasive compositions, the Examiner concludes that it would have been obvious to substitute silicon carbide with aluminum oxide and thereby arrive at the presently claimed invention.

With respect to other types of rubber (i.e., claim 4), the Examiner asserts that while Brewer exemplifies NBR and nitrile rubbers, the reference is open to other suitable conventional rubbers (col. 3, lines 13-14), including those presently claimed. The Examiner concludes that it would have been obvious to utilize other conventional rubbers with an expectation of comparable results, and thereby arrive at present claim 4.

In order to overcome the Examiner's rejection, Applicants herein amend claims 1 and 7 to clarify the claim to recite that the unvulcanized rubber is non-crosslinked. Applicants note

that this amendment is supported by paragraph [0045] of US Patent Application Publication No. 2004/0175544, which recites that:

[0045] The unvulcanized rubber, or rubber which is not crosslinked, in the composition for the non-asbestos-based friction material of the present invention is at least of one type selected from the group consisting of natural rubber, isoprene rubber (IR), nitrile/butadiene rubber (NBR), styrene/butadiene rubber (SBR), butadiene rubber (BR), chloroprene rubber (CR), butyl rubber (IIR), ethylene/propylene rubber (EPM or EPDM), urethane rubber, silicone rubber, fluorine rubber and acrylic rubber. Nitrile/butadiene rubber (NBR) is sometimes referred to as nitrile rubber or acrylonitrile/butadiene copolymer rubber, and styrene/butadiene rubber (SBR) is sometimes referred to as styrol rubber and is a butadiene/styrene copolymer rubber. Ethylene/propylene rubber may be an ethylene/propylene copolymer rubber (EPM or EPR) or ethylene/propylene/diene copolymer rubber (EPDM) as a 3-component ethylene/propylene copolymer incorporated with a non-conjugated diene as a third component. Of these, nitrile/butadiene rubber (NBR) and styrene/butadiene rubber (SBR) are particularly preferable, because they are more resistant to heat and wear than others and hence can form a film covering the abrasive particles more easily.

Applicants submit that the present amendment overcomes the rejection, because the rubber used in Brewer (US Patent No. 5,856,278) which may be unvulcanized but is still crosslinked.

Applicants particularly note that the NBR rubber is used in Brewer as an organic binder , which must be relatively hard. Therefore, one skilled in the art would know that at least in the final product of Brewer, the NBR rubber could not be in the form of an unvulcanized and non-crosslinked rubber (which is relatively soft).

Therefore, Applicants respectfully submit that the rejection has been overcome, because the claimed combination of references fails to teach or suggest all of the claimed limitations in the present invention.

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Amendment under 37 C.F.R. §1.116
Amendment Filed: September 14, 2006

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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